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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/722,339  | 11/28/2000  | Roland A. Smith      | 9-13528-131US KD/bm | 6178             |
| 20988   | 7590        | 07/12/2005           | EXAMINER            |                  |
| OGILVY RENAULT LLP<br>1981 MCGILL COLLEGE AVENUE<br>SUITE 1600<br>MONTREAL, QC H3A2Y3<br>CANADA |             |                      | PHAN, HANH          |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 2638                |                  |

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/722,339

Applicant(s)

SMITH ET AL.

Examiner

Hanh Phan

Art Unit

2638

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 November 2000.  
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-49 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. This Office Action is responsive to the Amendment filed on 03/14/2005.

#### ***Double Patenting***

2. nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1-49 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-88 of copending Application No. 09/789,559 (Roberts et al). Although the conflicting claims are not identical, they are not patentably distinct from each other because the limitations recited in claims 1-49 of the instant application are encompassed by claims 1-88 of copending Application No. 09/789,559 (Roberts et al).

Regarding claims 1, 13, 25, 37 and 44, Roberts et al (copending Application No. 09/789,559) discloses a method of equalization across N channels where N is an integer greater than 1 of a multi-channel link of a communications network, comprising steps of:

distributing each one of M data signals, where M is an integer greater than 1 across the N channels of the link, such that a substantially equal proportion of each data signal is conveyed through each one of the N channels as a composite data-stream; and

processing the composite data-streams conveyed through the N channels to recover the M data signals whereby performance variations between the N channels are equalized by averaging within each of the M data signals (see claims 1 and 7 of Roberts).

Regarding claims 2, 14, 26 and 38, Roberts discloses wherein each data signal is a Forward Error Correction (FEC) encoded data stream (see claim 4 of Roberts).

Regarding claims 3, 15, 27, 39 and 45, Roberts discloses dividing each one of the M data signals into N respective sub-streams of substantially equal length and interleaving the sub-streams into respective ones of the N channels (see claims 1 and 7 of Roberts).

Regarding claims 4, 16, 28 and 40, Roberts discloses wherein the step of dividing each data signal comprises a step of inserting a respective predetermined unique identifier into each sub-stream (see claim 8 of Roberts).

Regarding claims 5, 17, 29, 41 and 46, Roberts discloses wherein the step of dividing each data signal comprises, steps of:

partitioning the data signal into a sequential series of data units having a predetermined length; and

forwarding each successive data unit, in turn, to a respective sub-stream (see claims 1 and 7 of Roberts).

Regarding claims 6, 11, 18, 23, 30, 35, 42 and 48, Roberts discloses wherein each data unit has a length of one or more bits (see claim 15 of Roberts).

Regarding claims 7, 19, 24, 31, 36, 43 and 49, Roberts discloses the step of interleaving one sub-stream of each data signal into a respective one of the N channels comprises using a sequential interleaving process to select a data unit from one sub-stream of each data signal in a predetermined order, and forward each selected data unit, in turn, to the channel (see claims 1 and 7 of Roberts).

Regarding claims 8, 12, 20, 24, 32, 36 and 49, Roberts discloses the step of processing a composite data-stream conveyed through each of the N channels comprises steps of dividing each composite data-stream to recover respective sub-streams of each data signal and interleaving respective recovered sub-streams of each data signal to recover each one of the M data signals (see claims 27-45 of Roberts).

Regarding claims 9, 17, 21, 29, 33 and 41, Roberts discloses steps of partitioning the data signal into a sequential series of data units having a predetermined length and forwarding each successive data unit, in turn, to a respective sub-stream (see claims 27-45 of Roberts).

Regarding claims 10, 22, 34 and 47, Roberts discloses wherein each substream within the composite data stream includes a respective predetermined unique identifier, and the step of partitioning the composite data stream comprises the steps of:

searching the composite data stream to locate a unique identifier; and

extracting one or more data units associated with the unique identifier from composite data stream (see claims 27-45 of Roberts).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 13, 25, 37 and 44 are rejected under 35 U.S.C. 102 (b) as being anticipated by Sharony et al (US Patent No. 5,953, 143).

Regarding claims 1, 13, 25, 37 and 44, referring to Figure 1, Sharony teaches a method of equalization across N channels where N is an integer greater than 1 of a multi-channel link of a communications network, comprising steps of:

distributing (i.e., 1xn splitter 12, Fig. 1) each one of M data signals (i.e., input fibers 11, Fig. 1) where M is an integer greater than 1 across the N channels of the link (i.e., output fibers 15, Fig. 1), such that a substantially equal proportion of each data signal is conveyed through each one of the N channels as a composite data stream; and

processing (Fig. 1) the composite data-streams conveyed through the N channels to recover the M data signals whereby performance variations between the N

channels are equalized by averaging within each of the M data signals (see col. 2, lines 58-66 and col. 3, lines 18-35).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2, 14, 26 and 38 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Sharony et al (US Patent No. 5,953, 143) in view of Marko (US Patent No. 6,229,824).

Regarding claims 2, 14, 26 and 38, Sharony differs from claims 2, 14, 26 and 38 in that he fails to teach each data signal is a Forward Error Correction (FEC) encoded data stream. However, Marko in US Patent No. 6,229,824 teaches each data signal is a Forward Error Correction (FEC) encoded data stream (Fig. 1, col. 4, lines 9-47).

Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the each data signal is a Forward Error Correction (FEC) encoded data stream as taught by Marko in the system of Sharony. One of ordinary skill in the art would have been motivated to do this since Marko suggests in column 4, lines 9-47 that using such the each data signal is a Forward Error Correction (FEC) encoded data stream have advantage of allowing checking for errors in the data transmission and correct any errors, thereby improving the accuracy of the data.

***Allowable Subject Matter***

8. Claims 3-12, 15-24, 27-36, 39-43 and 45-49 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and overcome the double patenting rejection.

***Response to Arguments***


9. Applicant's arguments with respect to claims 1-49 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Phan whose telephone number is (571)272-3035.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vaderpuye can be reached on (571)272-3078. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.

  
**HANH PHAN**  
**PRIMARY EXAMINER**